

105TH CONGRESS
2D SESSION

H. R. 3332

To amend the High-Performance Computing Act of 1991 to authorize appropriations for fiscal years 1999 and 2000 for the Next Generation Internet program, to require the Advisory Committee on High-Performance Computing and Communications, Information Technology, and the Next Generation Internet to monitor and give advice concerning the development and implementation of the Next Generation Internet program and report to the President and the Congress on its activities, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 4, 1998

Mr. SENSENBRENNER (for himself and Mr. BROWN of California) introduced the following bill; which was referred to the Committee on Science

A BILL

To amend the High-Performance Computing Act of 1991 to authorize appropriations for fiscal years 1999 and 2000 for the Next Generation Internet program, to require the Advisory Committee on High-Performance Computing and Communications, Information Technology, and the Next Generation Internet to monitor and give advice concerning the development and implementation of the Next Generation Internet program and report to the President and the Congress on its activities, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Next Generation Inter-
5 net Research Act of 1998”.

6 **SEC. 2. FINDINGS.**

7 (a) IN GENERAL.—The Congress finds that—

8 (1) United States leadership in science and
9 technology has been vital to the Nation’s prosperity,
10 national and economic security, and international
11 competitiveness, and there is every reason to believe
12 that maintaining this tradition will lead to long-term
13 continuation of United States strategic advantages
14 in information technology;

15 (2) the United States investment in science and
16 technology has yielded a scientific and engineering
17 enterprise without peer, and that Federal investment
18 in research is critical to the maintenance of United
19 States leadership;

20 (3) previous Federal investment in computer
21 networking technology and related fields has resulted
22 in the creation of new industries and new jobs in the
23 United States;

1 (4) the Internet is playing an increasingly im-
2 portant role in keeping citizens informed of the ac-
3 tions of their government; and

4 (5) continued inter-agency cooperation is nec-
5 essary to avoid wasteful duplication in Federal net-
6 working research and development programs.

7 (b) ADDITIONAL FINDINGS FOR THE 1991 ACT.—
8 Section 2 of the High-Performance Computing Act of
9 1991 (15 U.S.C. 5501) is amended by—

10 (1) striking paragraph (4) and inserting the fol-
11 lowing:

12 “(4) A high-capacity, flexible, high-speed na-
13 tional research and education computer network is
14 needed to provide researchers and educators with ac-
15 cess to computational and information resources, act
16 as a test bed for further research and development
17 for high-capacity and high-speed computer networks,
18 and provide researchers the necessary vehicle for
19 continued network technology improvement through
20 research.”; and

21 (2) adding at the end thereof the following:

22 “(7) Additional research must be undertaken to
23 lay the foundation for the development of new appli-
24 cations that can result in economic growth, improved
25 health care, and improved educational opportunities.

1 “(8) Research in new networking technologies
2 holds the promise of easing the economic burdens of
3 information access disproportionately borne by rural
4 users of the Internet.

5 “(9) Information security is an important part
6 of computing, information, and communications sys-
7 tems and applications, and research into security ar-
8 chitectures is a critical aspect of computing, infor-
9 mation, and communications research programs.”.

10 **SEC. 3. PURPOSES.**

11 (a) IN GENERAL.—The purposes of this Act are—

12 (1) to authorize, through the High-Performance
13 Computing Act of 1991 (15 U.S.C. 5501 et seq.),
14 research programs related to—

15 (A) high-end computing and computation;

16 (B) human-centered systems;

17 (C) high confidence systems; and

18 (D) education, training, and human re-
19 sources; and

20 (2) to provide, through the High-Performance
21 Computing Act of 1991 (15 U.S.C. 5501 et seq.),
22 for the development and coordination of a com-
23 prehensive and integrated United States research
24 program which will—

1 (A) focus on the research and development
2 of a coordinated set of technologies that seeks
3 to create a network infrastructure that can sup-
4 port greater speed, robustness, and flexibility
5 than is currently available and promote
6 connectivity and interoperability among ad-
7 vanced computer networks of Federal agencies
8 and departments;

9 (B) focus on research in technology that
10 may result in high-speed data access for users
11 that is both economically viable and does not
12 impose a geographic penalty; and

13 (C) encourage researchers to pursue ap-
14 proaches to networking technology that lead to
15 maximally flexible and extensible solutions
16 wherever feasible.

17 (b) MODIFICATION OF PURPOSES OF THE 1991
18 ACT.—Section 3 of the High-Performance Computing Act
19 of 1991 (15 U.S.C. 5502) is amended by—

20 (1) striking the section caption and inserting
21 the following:

22 **“SEC. 3. PURPOSES.”;**

23 (2) striking “purpose of this Act is” and insert-
24 ing “purposes of this Act are”;

1 (3) striking subparagraph (A) of paragraph (1)
 2 and redesignating subparagraphs (B) through (I) as
 3 subparagraphs (A) through (H), respectively;

4 (4) striking “Network” and inserting “Inter-
 5 net” in paragraph (1)(B), as so redesignated by
 6 paragraph (3) of this subsection;

7 (5) striking “and” at the end of paragraph
 8 (1)(H), as so redesignated by paragraph (3) of this
 9 subsection;

10 (6) striking the period at the end of paragraph
 11 (2) and inserting a semicolon; and

12 (7) adding at the end thereof the following:

13 “(3) promoting the more rapid development and
 14 wider distribution of networking management and
 15 development tools; and

16 “(4) promoting the rapid adoption of open net-
 17 work standards.”.

18 **SEC. 4. NATIONAL HIGH-PERFORMANCE COMPUTING PRO-**
 19 **GRAM.**

20 (a) PROGRAM ELEMENTS.—Subparagraphs (A) and
 21 (B) of section 101(a)(2) of the High-Performance Com-
 22 puting Act of 1991 (15 U.S.C 5511(a)(2)(A) and (B)) are
 23 amended to read as follows:

1 “(A) provide for the development of tech-
2 nologies to advance the capacity and capabilities of
3 the Internet;

4 “(B) provide for high performance testbed net-
5 works to develop and demonstrate advanced net-
6 working technologies and to develop and dem-
7 onstrate advanced applications made possible by the
8 existence of such testbed networks;”.

9 (b) ADVISORY COMMITTEE.—Section 101(b) of the
10 High-Performance Computing Act of 1991 (15 U.S.C
11 5511(b)) is amended by striking “HIGH-PERFORMANCE
12 COMPUTING” in the subsection heading.

13 **SEC. 5. NEXT GENERATION INTERNET.**

14 Title I of the High-Performance Computing Act of
15 1991 (15 U.S.C 5511 et seq.) is amended by adding at
16 the end the following new section:

17 **“SEC. 103. NEXT GENERATION INTERNET.**

18 “(a) ESTABLISHMENT.—As part of the Program, the
19 National Science Foundation, the Department of Defense,
20 the Department of Energy, the Department of Commerce,
21 the National Aeronautics and Space Administration, and
22 other agencies participating in the Program are author-
23 ized to support the Next Generation Internet program.
24 The objectives of the Next Generation Internet program
25 shall be to—

1 “(1) support research, development, and dem-
2 onstration of advanced networking technologies to
3 increase the capabilities and improve the perform-
4 ance of the Internet;

5 “(2) develop an advanced testbed network con-
6 necting a significant number of research sites, in-
7 cluding universities, Federal research institutions,
8 and other appropriate research partner institutions,
9 to support networking research and to demonstrate
10 new networking technologies; and

11 “(3) develop and demonstrate advanced Inter-
12 net applications that meet important national goals
13 or agency mission needs, and that are supported by
14 the activities described in paragraphs (1) and (2).

15 “(b) DUTIES OF ADVISORY COMMITTEE.—The Advi-
16 sory Committee on High-Performance Computing and
17 Communications, Information Technology, and the Next
18 Generation Internet, established pursuant to section
19 101(b) by Executive Order No. 13035 of February 11,
20 1997 (62 F.R. 7131), in addition to its functions under
21 section 101(b), shall—

22 “(1) assess the extent to which the Next Gen-
23 eration Internet program—

24 “(A) carries out the purposes of this Act;

25 and

1 “(B) addresses concerns relating to, among
2 other matters—

3 “(i) geographic penalties (as defined
4 in section 6(1) of the Next Generation
5 Internet Research Act of 1998); and

6 “(ii) technology transfer to and from
7 the private sector;

8 “(2) assess the extent to which the role of each
9 Federal agency and department involved in imple-
10 menting the Next Generation Internet program is
11 clear and complementary to, and non-duplicative of,
12 the roles of other participating agencies and depart-
13 ments; and

14 “(3) make recommendations relating to its find-
15 ings under paragraphs (1) and (2).

16 “(b) REPORTS.—The Advisory Committee shall as-
17 sess implementation of the Next Generation Internet pro-
18 gram and shall report, not less frequently than annually,
19 to the President, the Committee on Commerce, Science,
20 and Transportation of the Senate, and the Committee on
21 Science of the House of Representatives on its findings
22 and recommendations for the preceding fiscal year. The
23 first such report shall be submitted 6 months after the
24 date of enactment of the Next Generation Internet Re-

1 search Act of 1998 and the last report shall be submitted
2 by September 30, 2000.

3 “(c) AUTHORIZATION OF APPROPRIATIONS.—There
4 are authorized to be appropriated for the purposes of this
5 section \$110,000,000 for fiscal year 1999 and
6 \$115,000,000 for fiscal year 2000.”.

7 **SEC. 6. DEFINITIONS.**

8 For purposes of this Act—

9 (1) GEOGRAPHIC PENALTY.—The term “geo-
10 graphic penalty” means the imposition of costs on
11 users of the Internet in rural or other locations, at-
12 tributable to the distance of the user from network
13 facilities or the low population density of the area in
14 which the user is located, that are substantially
15 greater than the costs imposed on users in locations
16 closer to such facilities or on users in locations with
17 significantly greater population density.

18 (2) INTERNET.—The term “Internet” means
19 the international computer network of both Federal
20 and non-Federal interoperable packet switched data
21 networks.

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